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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,529	10/27/2003	Krzysztof W. Przytula	HRL099	6407
28848	7590	08/23/2006	EXAMINER	
TOPE-MCKAY & ASSOCIATES 23852 PACIFIC COAST HIGHWAY #311 MALIBU, CA 90265			STARKS, WILBERT L	
			ART UNIT	PAPER NUMBER
			2129	

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/695,529

Applicant(s)

PRZYTULA, KRZYSZTOF W.

Examiner

Wilbert L. Starks, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-66 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-66 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 U.S.C. §101***

1. 35 U.S.C. §101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

the invention as disclosed in claims 1-66 is directed to non-statutory subject matter.

2. None of the claims is limited to practical applications in the technological arts.

Examiner finds that *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994) controls the 35 U.S.C. §101 issues on that point for reasons made clear by the Federal Circuit in *AT&T Corp. v. Excel Communications, Inc.*, 50 USPQ2d 1447 (Fed. Cir. 1999). Specifically, the Federal Circuit held that the act of:

...[T]aking several abstract ideas and manipulating them together adds nothing to the basic equation. *AT&T v. Excel* at 1453 quoting *In re Warmerdam*, 33 F.3d 1354, 1360 (Fed. Cir. 1994).

Examiner finds that Applicant's "decision flowchart" references are just such abstract ideas.

3. Examiner bases his position upon guidance provided by the Federal Circuit in *In re Warmerdam*, as interpreted by *AT&T v. Excel*. This set of precedents is within the same line of cases as the *Alappat-State Street Bank* decisions and is in complete agreement with those decisions. *Warmerdam* is consistent with *State Street's* holding that:

Today we hold that *the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price*, constitutes a practical application of a mathematical algorithm, formula, or calculation because it produces 'a useful, concrete and tangible result' -- *a final share price momentarily fixed for recording purposes and even accepted and relied upon by regulatory authorities and in subsequent trades*. (emphasis added) *State Street Bank* at 1601.

4. True enough, that case later eliminated the "business method exception" in order to show that business methods were not per se nonstatutory, but the court clearly *did not* go so far as to make business methods *per se* statutory. A plain reading of the excerpt above shows that the Court was *very specific* in its definition of the new *practical application*. It would have been much easier for the court to say that "business methods were per se statutory" than it was to define the practical application in the case as "...the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price..."

5. The court was being very specific.

6. Additionally, the court was also careful to specify that the "useful, concrete and tangible result" it found was "a final share price momentarily fixed for recording purposes and even accepted and relied upon by regulatory authorities and in subsequent trades." (i.e. the trading activity is the further practical use of the real world monetary data beyond the transformation in the computer -- i.e., "post-processing activity".)

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7. Applicant cites no such specific results to define a useful, concrete and tangible result. Neither does Applicant specify the associated practical application with the kind of specificity the Federal Circuit used.
8. Furthermore, in the case *In re Warmerdam*, the Federal Circuit held that:

...[T]he dispositive issue for assessing compliance with Section 101 in this case is whether the claim is for a process that goes beyond simply manipulating 'abstract ideas' or 'natural phenomena' ... As the Supreme Court has made clear, '[a]n idea of itself is not patentable, ... taking several abstract ideas and manipulating them together adds nothing to the basic equation'. In re Warmerdam 31 USPQ2d at 1759 (emphasis added).

9. Since the Federal Circuit held in *Warmerdam* that this is the “dispositive issue” when it judged the usefulness, concreteness, and tangibility of the claim limitations in that case, Examiner in the present case views this holding as the dispositive issue for determining whether a claim is “useful, concrete, and tangible” in similar cases. Accordingly, the Examiner finds that Applicant manipulated a set of abstract “decision flowcharts” to solve purely algorithmic problems in the abstract (i.e., what *kind* of “decision” is involved? A vehicle diagnostic system? A crime predictor? Probabilistic word problems? Philosophical ideas? Even vague expressions, about which even reasonable persons could differ as to their meaning? Combinations thereof?) Clearly, a claim for manipulation of “decision flowcharts” is provably even more abstract (and thereby less limited in practical application) than pure “mathematical algorithms” which the Supreme Court has held are per se nonstatutory – in fact, it *includes* the expression of nonstatutory mathematical algorithms.
10. Since the claims are not limited to exclude such abstractions, the broadest reasonable interpretation of the claim limitations includes such abstractions. Therefore, the claims are impermissibly abstract under 35 U.S.C. §101 doctrine.
11. Since *Warmerdam* is within the *Alappat-State Street Bank* line of cases, it takes the same view of “useful, concrete, and tangible” the Federal Circuit applied in *State Street Bank*. Therefore, under *State Street Bank*, this could not be a “useful, concrete and tangible result”. There is only manipulation of abstract ideas.

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12. The Federal Circuit validated the use of *Warmerdam* in its more recent *AT&T Corp. v. Excel Communications, Inc.* decision. The Court reminded us that:

Finally, the decision in *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994) is not to the contrary. \*\*\* The court found that the claimed process did nothing more than manipulate basic mathematical constructs and concluded that 'taking several abstract ideas and manipulating them together adds nothing to the basic equation'; hence, the court held that the claims were properly rejected under §101 ... Whether one agrees with the court's conclusion on the facts, the holding of the case is a straightforward application of the basic principle that mere laws of nature, natural phenomena, and abstract ideas are not within the categories of inventions or discoveries that may be patented under §101. (emphasis added) *AT&T Corp. v. Excel Communications, Inc.*, 50 USPQ2d 1447, 1453 (Fed. Cir. 1999).

13. Remember that in *In re Warmerdam*, the Court said that this was the dispositive issue to be considered. In the *AT&T* decision cited above, the Court reaffirms that this is the issue for assessing the “useful, concrete, and tangible” nature of a set of claims under 101 doctrine. Accordingly, Examiner views the *Warmerdam* holding as the dispositive issue in this analogous case.

14. The fact that the invention is merely the manipulation of *abstract ideas* is clear. The data referred to by Applicant's phrase “decision flowchart” is simply an abstract construct that does not provide limitations in the claims to the transformation of real world data (such as monetary data or heart rhythm data) by some disclosed process. Consequently, the necessary conclusion under *AT&T*, *State Street* and *Warmerdam*, is straightforward and clear. The claims take several abstract ideas (i.e., “decision flowcharts” in the abstract) and manipulate them together adding nothing to the basic equation. Claims 1-66 are, thereby, rejected under 35 U.S.C. §101.

***Claim Rejections - 35 U.S.C. §112***

The following is a quotation of the first paragraph of 35 U.S.C. §112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-66 are rejected under 35 U.S.C. §112, first paragraph because current case law (and accordingly, the MPEP) require such a rejection if a §101 rejection is given because when Applicant has not in fact disclosed the practical application for the invention, as a matter of law there is no way Applicant could have disclosed *how* to practice the *undisclosed* practical application. This is how the MPEP puts it:

("The how to use prong of section 112 **incorporates as a matter of law** the requirement of 35 U.S.C. §101 that the specification disclose as a matter of fact a practical utility for the invention.... If the application fails as a matter of fact to satisfy 35 U.S.C. §101, then the application also fails as a matter of law to enable one of ordinary skill in the art to use the invention under 35 U.S.C. §112."; In re Kirk, 376 F.2d 936, 942, 153 USPQ 48, 53 (CCPA 1967) ("Necessarily, compliance with § 112 requires a description of how to use presently useful inventions, **otherwise an applicant would anomalously be required to teach how to use a useless invention.**") See, MPEP 2107.01(IV), quoting In re Kirk (emphasis added).

Therefore, claims 1-66 are rejected on this basis.

Further, independent claims 1, 23, and 45 are not fully enabled to operate as Applicant claims. For instance, the claims recite that conditional probabilities are determined for all test states by "examining dependencies of conclusion links on the outcome nodes in the decision flowchart." Applicant has not disclosed from where these probabilities actually come. More specifically, Applicant has not disclosed any limitations



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to a practical application, so no one of ordinary skill in the art can look at a network that has not been applied to anything and pull the probabilities out of thin air.

No one can simply "examine" the dependencies of an abstract concept and know probabilities that are appropriate...a limitation to a practical application must be disclosed.

Further, Applicant does not specify the central conversion process that takes one from a decision flowchart to a causality graph. Applicant merely defines the decision flowchart in terms of the results of the conversion process. No one of ordinary skill in the art would imply a specific conversion method from this.

Further, claims 2, 24, and 46 disclose the use of a "Flowchart Markup Language (FCML)." No such language is known to the art. There are no other references to such a thing on the Internet through Google. There is no definition of the parameters of such a language in the Specification. The so-called "FCML" is merely an abstract idea with no definition.

Accordingly, no one of ordinary skill in the art would know how to practice this part of the invention, since it is completely unknown to the art.

For all these reasons, claims 1-66 fail 35 U.S.C. §112, first paragraph and are, thereby rejected.

### ***Response to Arguments***

Applicant's arguments filed 06/12/2006 have been fully considered but they are not persuasive. Specifically:

### Argument 1

The Applicant respectfully submits that the Examiner misinterpreted the cited cases and that Claims 1-66 comply with the requirements of 35 U.S.C. §101. More specifically, the Applicant submits that the present invention does not merely manipulate abstract ideas and does, in fact, provide a useful, concrete and tangible result. As clearly stated in the Specification, "[t]he immediate benefits include flexibility of use in diagnosis, easy updating by learning, and the ability to cover cost of observations and multiple faults. This tool has application in any field where decisions are applied, non-limiting examples of which include diagnosing problems with machinery, such as cars, trucks, planes, boats, and trains, as well as with other problem types, such as computer network communications, satellite diagnostics, etc." See Paragraph 58, lines 5-11. In particular, diagnostic services are desirable for many systems. The present invention allows a user to generate probabilistic graphs and determine the conditional probabilities for all test states. In other words, and as described in the specification, a user can assess the probability that a particular observation will occur (e.g., the failure for a given node such as a component) given certain pieces of existing evidence (e.g., such as the condition of another component). One skilled in the art cannot dispute that the ability to determine the probability of a particular observation (e.g., failure) is a useful, concrete, and tangible result.

In fact, using the reasoning stated in the State Street Bank decision, those skilled in the art rely upon the conditional probabilities in order to make decisions, such as to repair, replace, abort, and/or continue use of components of a system. The ability to predict an observation and diagnose a system, until now, has been done using simple flow charts. The present invention improves upon the prior art by converting decision flow charts into decision probabilistic graphs that enable a user to create powerful graphical probabilistic models in order to produce better decision procedures. The present invention is not merely a manipulation of an abstract idea but, for example, a method for determining probabilities of predicted observations, clearly a useful, concrete, and tangible result.

Applicant's argument that his claims can be applied to diagnosis and decision making is insufficient to actually limit his claims to such applications. Those supposed "limitations" are only subsets of the actual matter limited by the claims. In their broadest reasonable interpretation, the claims include computer programs per se. An argument using erroneously limiting subsets of the actual metes and bounds of the claims is not

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sufficient to limit the claims to statutory matter because the "claims must be given their broadest reasonable interpretation." See, MPEP 2111 (emphasis added.)

Applicant based his argument on the narrower subsets of the actually claimed matter, thereby presenting erroneously narrow claim interpretations that appear more acceptable than the ones actually drafted into the claims.

Applicant must expressly present limitations that, in their broadest reasonable interpretation, denote statutory limitations to a practical application.

Examiner cannot even rely on In re Festo's "argument-based estoppel" to limit the claims to the matter in Applicant's argument, since such doctrine of equivalents issues are actually decided later in Court after an application has been allowed and later contested. Accordingly, Applicant's arguments cannot, at this early stage, be presumed by Examiner to be so limiting.

Examiner reads the claims carefully to search for actual limitations to practical applications and finds none. It is Examiner's opinion that the claims are devoid of statutory material. Having been given ample opportunity to respond by amendment, Applicant has presented no other statutory limitations to circumscribe the metes and bounds of the claims sufficiently to change this assessment.

Accordingly, Applicant has failed to carry his burden of showing how the claims are in any way statutory. On this basis, Examiner finds Applicant's argument to be unpersuasive and the rejections STAND.

## **Argument 2**

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The Examiner further stated that independent Claims 1, 23, and 45 were not fully enabled to operate as claims. For instance, the Examiner stated that the claims recite that conditional probabilities are determined for all test states by "examining dependencies of conclusion links on the outcome nodes in the decision flowchart." The Examiner stated that the Applicant has not disclosed from where these probabilities actually come.

The Applicant directs the Examiner to paragraphs 59-65. The referenced paragraphs describe in detail where the probabilities actually come from. If after reading the referenced paragraphs the Examiner needs further explanation, the Examiner is encouraged to contact the Applicant or the Applicant's representative.

First, Examiner did not mean the simple matter of how Bayesian Networks are generally trained. Examiner meant that the probabilities come from no practical application. Therefore, Applicant has not told how to practice a practical application.

Second, the claims are not in "means-plus-function" or "step-for" format, so 112, sixth paragraph, via *In re Donaldson*, does not permit Applicant to read the limitations into the claims. Therefore, the rejections STAND.

### **Argument 3**

Additionally, the Examiner stated that the Applicant has not disclosed any limitations to a practical application, so no one of ordinary skill in the art can look at a network that has not been applied to anything and pull the probabilities out of thin air. The Examiner also stated that one cannot "examine" the dependencies of an abstract concept and know probabilities that are appropriate, further stating that "a limitation to a practical application must be disclosed."

The claims are to be interpreted in light of the specification. As described in the specification, the present invention provides a practical application for use in decision making systems. The practical application being the ability to determine the probability that a particular observation will occur (e.g., failure of a node/component) given the occurrence of a particular observation (e.g., failure of another component). The claims clearly describe the limitations of the present invention and therefore the Applicant believes that the present invention is capable of being "examined."

Examiner did not mean that the claimed invention was not capable of being examined, but meant that mere inspection of an abstract Bayesian network, without disclosure of a practical application, does not allow one of ordinary skill in the art to know what probabilities are appropriate...that is, how to practice the unknown practical application.

#### **Argument 4**

As another basis for his rejection, the Examiner also stated that the Applicant did not specify the central conversion process that takes one from a decision flowchart to a causality graph. The Examiner hypothesized that the Applicant merely defined the decision flowchart in terms of the results of the conversion process, concluding that one of ordinary skill in the art would not imply a specific conversion method from it. The Examiner misinterpreted the Specification. The Applicant directs the Examiner to paragraph 60, lines 9-11, where it states, "the general steps for converting a flow chart into a graphical probabilistic model are illustrated next, using the flowchart from FIG. 4 as a **non-limiting example**." Paragraphs 61 through 65 of the Specification continue by specifying the central conversion process that takes one from a decision flowchart to a causality graph. As it is explicitly described in the Specification, one skilled in the art would clearly understand the specific conversion method.

Again, this "non-limiting example" is merely a subset of what is actually claimed in the broadest reasonable interpretation. Further, Applicant calls it a "non-limiting example", so it can't be used to limit the claims to a practical application. Further, the citations from the Specification cannot be read into the claims. Therefore, the rejections STAND.

#### **Argument 5**

The Examiner also stated that Claims 2, 24, and 46 disclose the use of a "Flowchart Markup Language (FCML)." The Examiner stated

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that no such language is known to the art. The Examiner incorrectly concluded that there is no definition of the parameters of such a language in the Specification, stating that the so-called "FCML" is merely an abstract idea with no definition. Accordingly, the Examiner concluded that one of ordinary skill in the art would not know how, to practice this part of the invention. The applicant directs the Examiner to paragraph 51, lines 3-5, where it clearly states, "the file may be converted to a portable file type 106 using an approach such as an extensible markup language (XML)-based language, termed a flow-chart markup language (FCML)." Contrary to the Examiner's assertion, XML is a commonly known term to one skilled in the art. The primary purpose of XML is to facilitate the sharing of data across different systems. As applied to the present invention, "After a flowchart is created, it is exported to a computer file 102. The computer file 102 may be in a format native to the program from which it was created, a "portable" format, or any other computer representation. After the computer file 102 has been created, it is provided to a translator 104. After translation, the file may be converted to a portable file type 106 using an approach such as a ...XML-based language, termed ...FCML." See Specification, paragraph 51. The term FCML was used because it is based on an XML language and is being applied specifically to encode information about a flowchart. Based on the definition in the Specification, one skilled in the art would clearly understand the use of the term FCML.

It is argued that FCML is based on XML. Further, Applicant equates XML and FCML. In Examiner's view of the arguments, it seems that XML is merely a tool to create FCML, but is not FCML itself. This "Flow Chart Markup Language" has not been defined by Applicant other than to say that XML is used to build it. What are its commands? Is there a commercial version that Applicant seeks to use? No questions like these have been answered. Therefore, the rejections STAND.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Wilbert L. Starks, Jr. whose telephone number is (571) 272-3691.

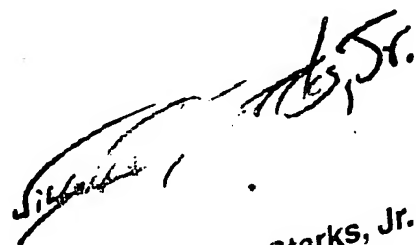
Alternatively, inquiries may be directed to the following:

**S. P. E. David Vincent** (571) 272-3080

**Official (FAX)** (571) 273-8300

WLS

20 August 2006



Wilbert L. Starks, Jr.  
Principal Examiner  
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